
Next Generation Electronic Commerce (EC) Network and Application Performance Monitoring Tools Evaluation

**JECPO Executive Briefing
22 May 2000**

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Agenda

- **Purpose**
- **Network and Application Performance Monitoring - Definitions and Benefits**
- **Evaluation Methodology**
- **Evaluated Products**
- **Evaluation Results**
- **Next Steps**
- **Recommendation**

Purpose

To present the status and recommendations from the MITRE/JECE evaluation of Network and Application Performance Monitoring (APM) tools

Definitions

- **Application Performance Monitoring (APM)** - Measuring the end-to-end response times for a user to perform an online business function (transaction). Reflects the user's experience of using the application.
- **Network Monitoring** - Monitoring individual network components for status, availability, response, etc.
- **Synthetic Application Transaction** - A transaction performed by a computer agent that represents a user transaction.
- **Service Levels** - Predefined response time ranges indicating acceptable, marginal, and unmet service goals.

Benefits of APM

- **Understand user's perspective of EB application**
- **Measure performance obtained from application**
- **Obtain trend data for future performance predictions**
- **Track and report on success of meeting service levels**
- **Use as capacity planning tool**
- **Maintain historical performance information**
- **Obtain performance metrics to show affects of system changes (show improvement with new software versions)**

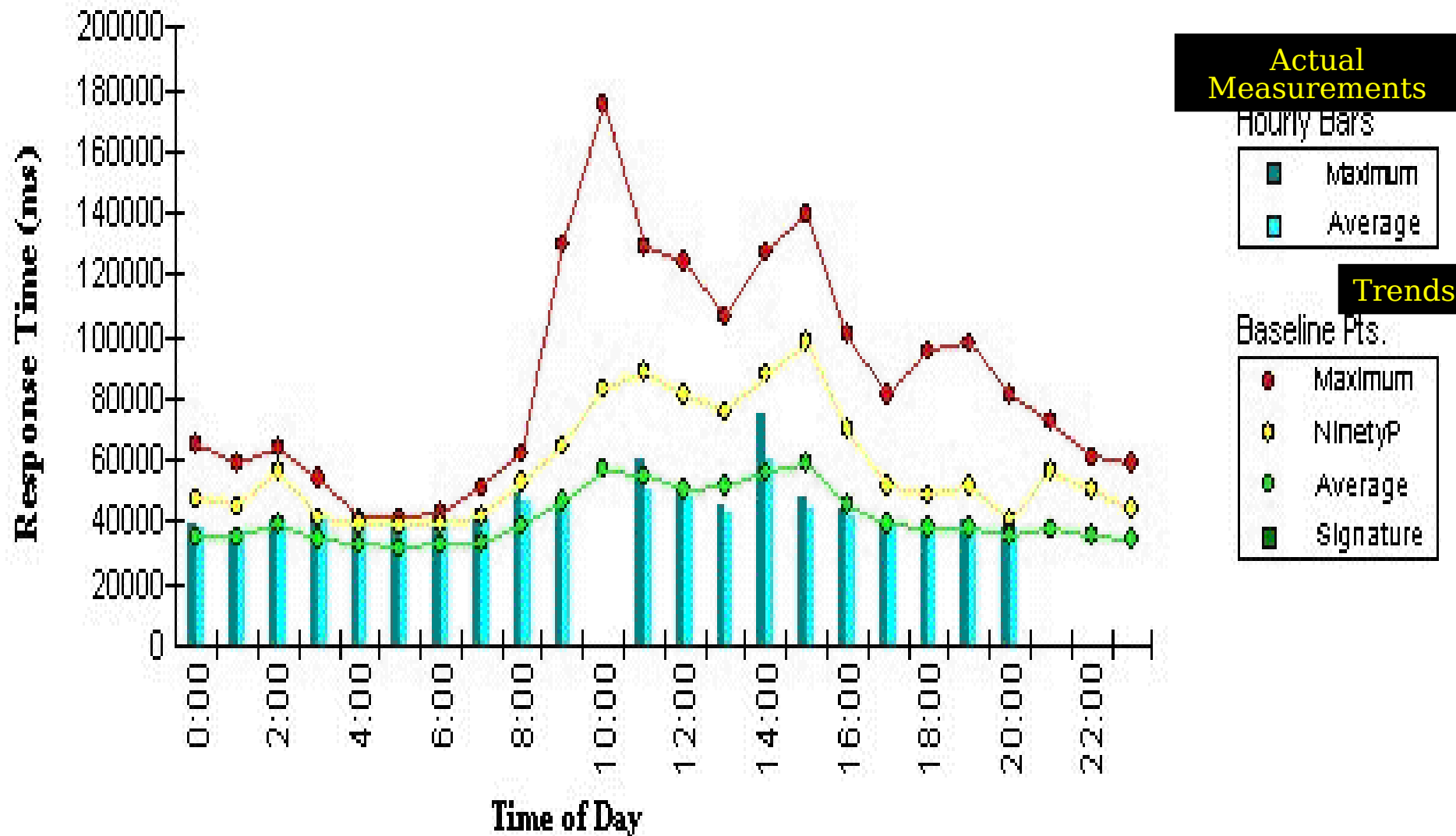
Benefits of Network Monitoring

- **Determine availability of network components**
- **Identify network problems (real-time events)**
- **Identify general status of network**
- **Identify network-related system bottlenecks**
- **Isolate network response times from application response times**

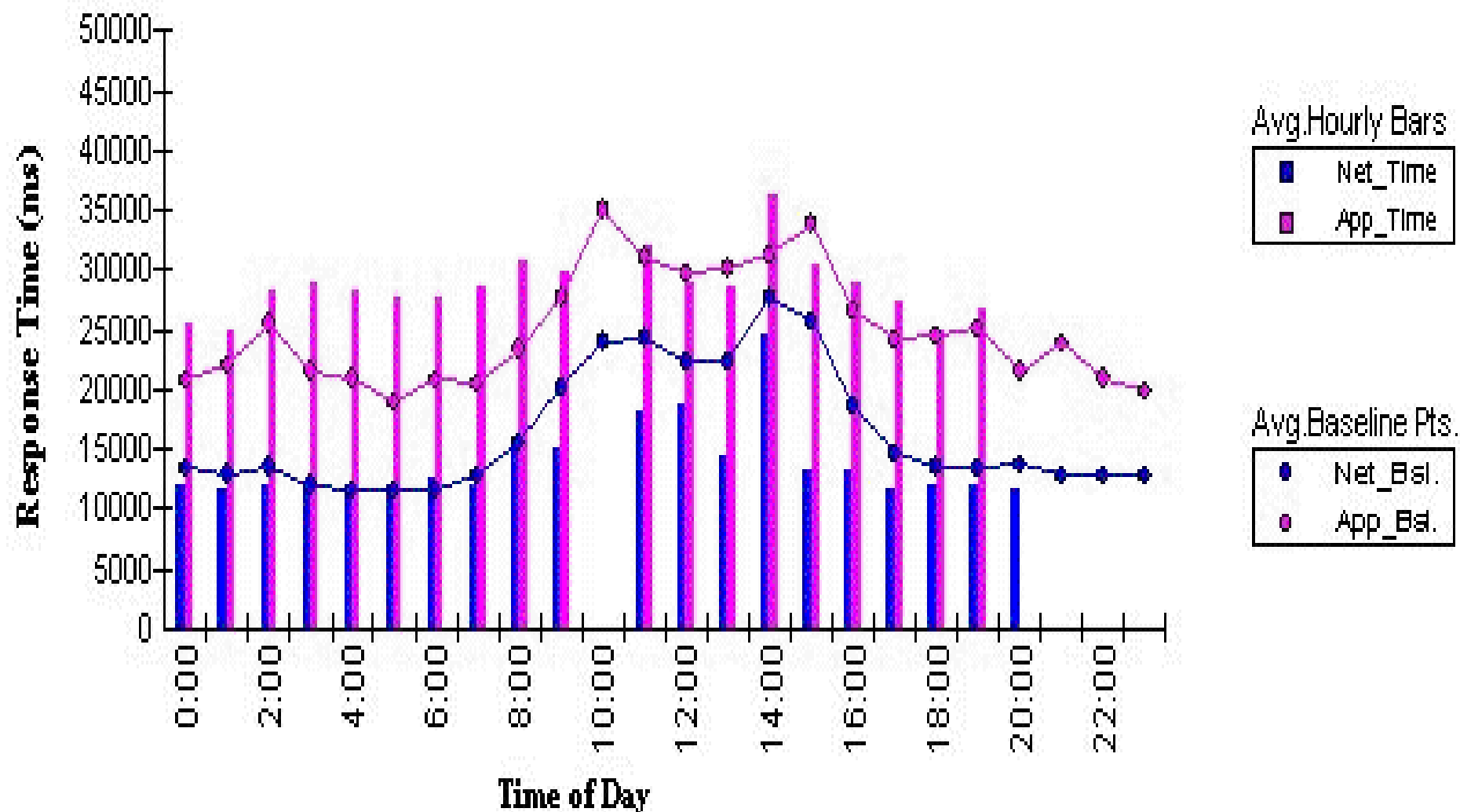
Service Levels and Trend Analysis

- **Service Levels**
 - Define desired service levels
 - Track and report on success of meeting service levels
 - DoD EMALL, search on “cordless drill”
- **Predictive analysis (future performance of EC site)**
- **Capacity planning tool in production environment**

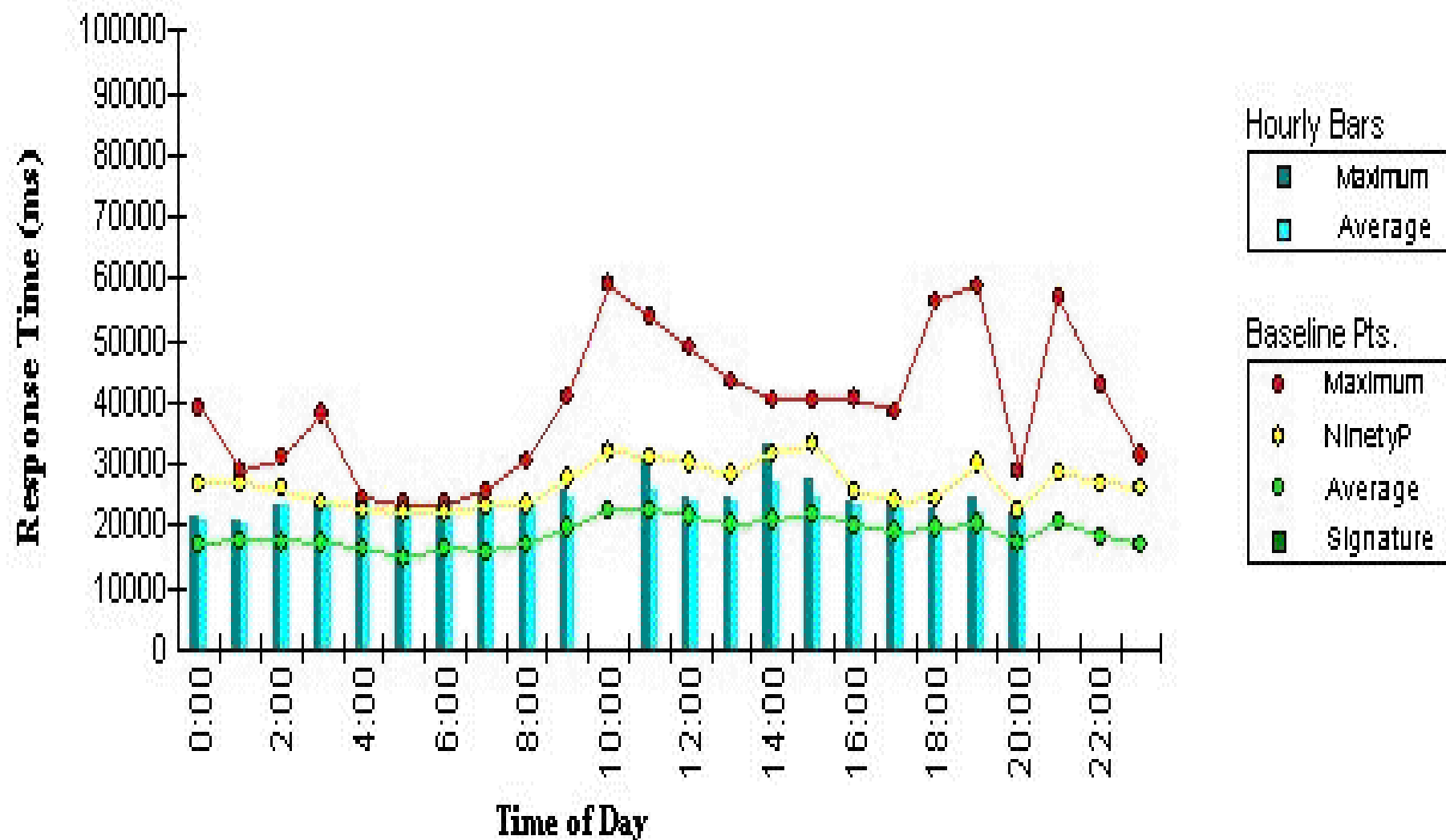
EMALL 4.01 -> Registered User -> Search for "cordless drill" - Total
{05-May-00}



EMALL 4.01 -> Registered User -> Search for "cordless drill" - Ntwk vs. App
{05-May-00}



<https://www.view.dla.mil> - POST /keyword results.phtml HTTP/1.1(ECOM) -
Total {05-May-00}



Monthly Response Time

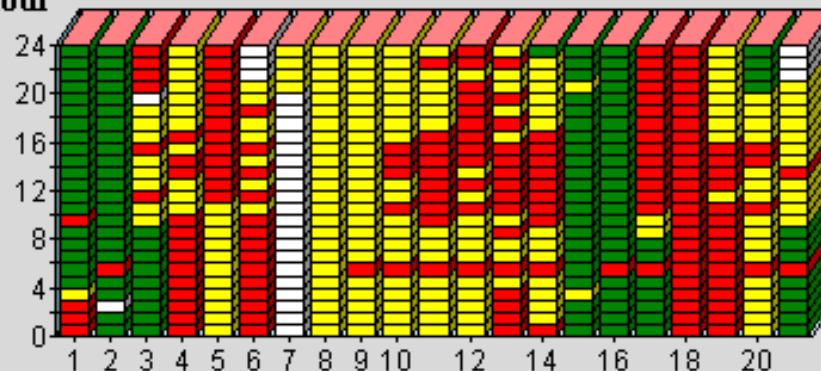


Application Response Time

EMALL 4.01 -> Search for "cordless drill"
Contract: 98% 30000ms

April, 2000

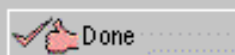
Hour



Date

- Green** - Meets Service Contract
- Yellow** - Marginal
- Red** - Below Service Contract
- Blue** - Time Excluded
- White** - Not Monitored

Hint: Right click on the bar chart to view more details



Evaluation Methodology

- **Research**
 - **Consult Gartner**
 - **Literature Search**
- **Develop Evaluation Criteria**
 - **Network Monitoring**
 - **Application Monitoring**
 - **Reporting**
 - **Alarming and Notification**
 - **Product Configuration and User Interface**
 - **Product Architecture**
 - **Cost**
- **Meet with Vendors**
- **Install and Evaluate Products in MITRE Lab**

Evaluated Products

- **NextPoint's *S³***
- **Lucent's *VitalSuite***
- **Concord's *Network Health (eHealth)***
- **DeskTalk's *TREND* and Ganymede's *Pegasus***
- **Keynote's *Perspective* (outsourced service)**

Recommendation

Purchase NextPoint's S³
Product

Next Steps

- **Purchase NextPoint's S³**
 - **Install in JECPO Evaluation and Demonstration Center**
 - **Begin regular monitoring of EMALL, other JECPO applications**
- **Incorporate monitoring into DoD EMALL "To-Be" Architecture**
- **Develop analysis plan**
 - **User Response Measurements for DoD EMALL**
 - **Capacity Planning for DoD EMALL**

Backup Slides

Evaluation Status

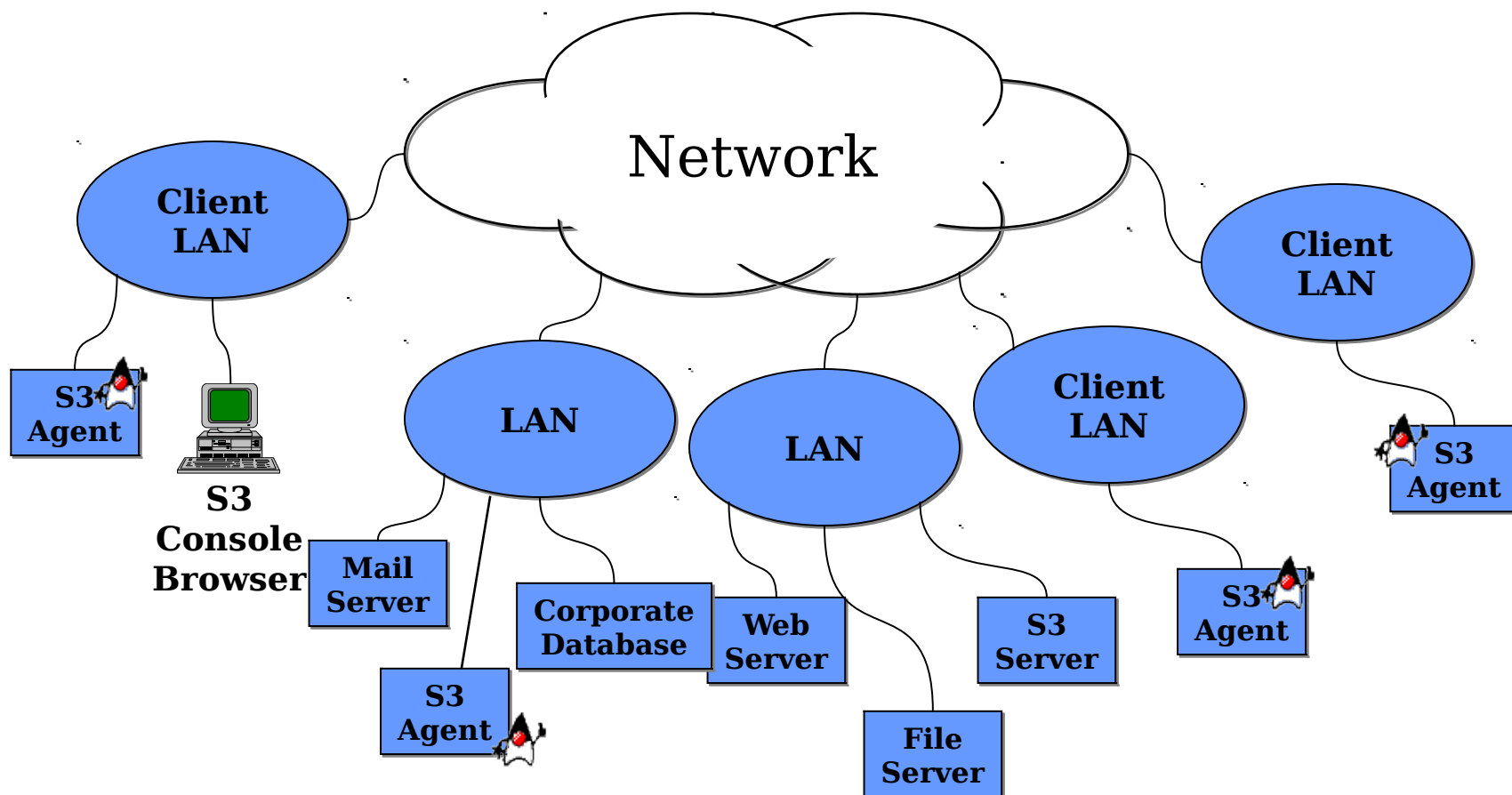
- Functional Need Defined (March 2000)
 - **Develop Evaluation Criteria** ☒
- Evaluation Work Performed (March-April 2000)
 - **Identify short list of COTS products for detailed evaluation** ☒
 - **Co-ordinate with Gartner Group recommendations** ☒
 - **Meet with vendors** ☒
- Deliverables
 - **Capacity Planning White Paper (March 2000)** ☒
 - **APM Briefing to EC Systems Engineering, EMALL PM (March 2000)** ☒
 - **APM Briefing to JECPO Program Managers** ☒
 - **Evaluation Criteria (March 2000)** ☒
 - **COTS Tools Comparison Matrix (April 2000)** ☒
 - **Evaluation Results (April 2000)**
 - **APM Executive Briefing (May 2000)**
 - **Develop Coordinated Monitoring Plan (TBD)**

Monitoring Electronic Commerce Web Sites

- **What are the typical user experiences?**
- **What are useful metrics for EC sites?**
 - **Web server information does not reflect site performance**
- ***Synthetic Application Transactions***
 - **Capture typical user sessions**
 - **Measure response times**
 - **Reflect end-to-end user perspective**

session = series of consecutive and related web pages accessed by a user to perform a business function

Agent-Based APM Component Positioning

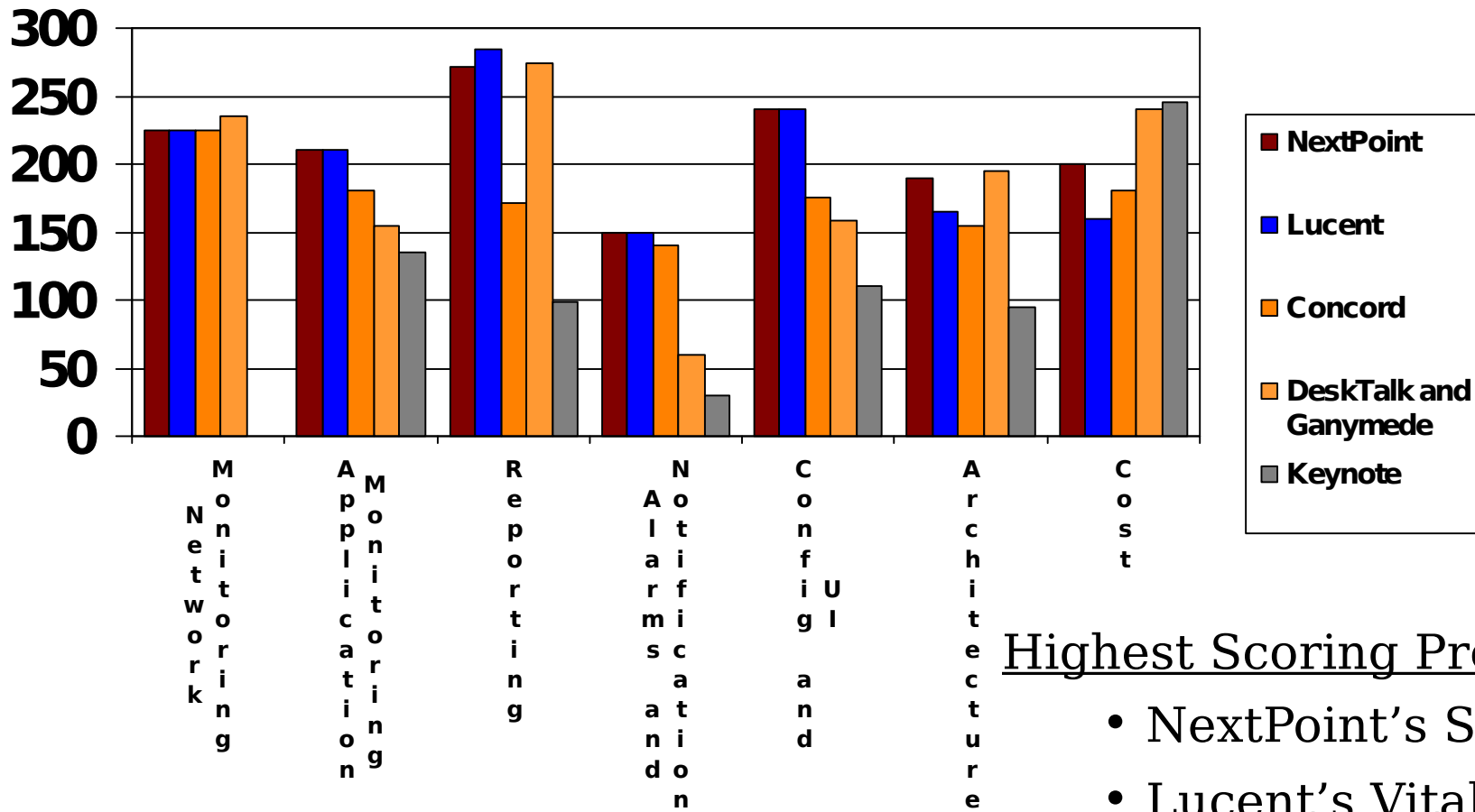


Evaluation Results

Minimum Criteria

- **Ability to perform both network and application monitoring**
 - **Eliminates Keynote**
- **Ability to install throughout DoD enterprise**
 - **Eliminates Keynote (outsourced service)**
- **Single, integrated product and license**
 - **Eliminates DeskTalk and Ganymede**
- **Ability to perform pro-active application monitoring**
 - **Eliminates Ganymede and Concord**

Evaluation Results



Highest Scoring Products

- NextPoint's S³
- Lucent's VitalSuite

NextPoint's S³

The NextPoint S³ management software suite provides comprehensive management of networks, e-commerce, IP Services, and applications designed to support the business objectives of the enterprise. In one integrated suite, managers can monitor application response time and availability service levels from the end-user's perspective, report end-user quality of service to executives, and drill-down into network performance to diagnose the cause of poor performance. The result is a deeper insight, faster response and resolution when issues occur and ultimately better control over network performance.

Lucent's VitalSuite

VitalSuite 7.1 builds on the capabilities of VitalSuite 7.0, the first performance management solution to help IT professionals improve business operations by monitoring, managing and troubleshooting their entire communications infrastructure as a single system. VitalSuite 7.0 featured the My Vital™ customizable information portal, which displays any combination of network, application and business performance data selected by the user. With My Vital, users can merge specific performance data from three primary VitalSuite components -- VitalNet™, VitalHelp™ and VitalAnalysis™ -- into a single display that provides a personalized window into the IT environment.

Concord's Network Health (eHealth)

Concord's eHealth delivers an end-to-end view of the network, regardless of the protocols or operating systems running. eHealth's breadth of coverage is key to making informed decisions about further network and IT resource optimization.

Concord's suite of applications addresses system and network performance management at multiple levels of the enterprise network. eHealth gives managers a high-level view of their IT resources and an accurate, detailed picture of individual links, devices, servers, and network usage.

DeskTalk's TREND and Ganymede's Pegasus

The TREND Application Performance ReportPack uses Pegasus to reflect the end user perspective of application performance by providing measurements of end-to-end response time, throughput and connectivity. TREND collects data from Pegasus and creates reports that present this end-to-end information in the context of detailed performance data about network segments and components. In addition, TREND analyzes the application performance data over time to forecast future behavior and assist in preventing service bottlenecks.

Keynote's Perspective

Keynote Perspective™ gives companies a systematic means to measure and optimize e-commerce performance and quality of service. Keynote Perspective is a custom, outsourced service that profiles the complete end-user experience of doing business with your site, including downloading content and executing transactions, from multiple locations around the world. Automatic summary reports and immediate alarms via email or pager notify you when performance problems occur, and robust diagnostic support is available right from your web browser so you can quickly pinpoint and solve problems before they turn into customer complaints.



Evaluation Results Highest Scoring

NextPoint S³ Products

- MITRE conducted hands-on evaluation
- Fully meets needs of APM for JECPO
- Cost - Small installation \$39,422*

Lucent's VitalSuite

- Hands-on evaluation not yet possible due to vendor availability
- Hands-on evaluation required to determine if product fully meets needs of APM for JECPO
- Cost - Smallest installation \$108,250*

Bottom Line:
NextPoint's S³ product is leading.

MITRE

Product Cost Analysis

	NextPoint	VitalSuite	Ganymede/ Desktalk	Concord
Scenario 1 (one time charge)				
Product Licenses	27,900	101,000 ²	74,400	
Services	8,022	7,000	3,600	
Training	3,500 ¹		4,800	
Total	39,422	108,250	83,100	
Scenario 1 (Recurring Cost)				
Annual Maint. & Support	5,022	25,250	9,192	
Scenario 2 (one time charge)				
Product Licenses	49,900	137,000 ³	85,700	
Services	13,482	7,000	3,600	
Training	3,500 ¹		4,800	
Total	66,882	144,000	94,200	
Scenario 2 (Recurring Cost)				
Annual Maintenance	8,982	34,250	11,592	
Options				
On-Site Training	1,500 +			

expenses/day

(1) Based on 1 person attending each off-site class. Does not include travel or other administrative expenses.

(2) Based on 50 network elements and 100 monitoring agents

(3) Based on 50 network elements and 500 monitoring agents

Product Evaluation Cost Scenarios

To derive a fair cost estimate for the evaluated products the following information was captured

- (1) The initial purchase price for both scenario 1 and 2 identified below.
- (2) Annual maintenance costs associated with supporting deployed products for both scenarios
- (3) Costs associated for consulting services or support for both scenarios.

Scenario 1

- 1 Data collection server

- 5 servers (web, application, database) (UNIX and NT)

- 5 networking hardware devices with 50 ports/elements to be monitored

- 5 monitoring workstations to pro-actively generate simulated application usage

- 5 client workstations representing heavy utilized locations to passively capture

- application/network statistics

- 250MB of annual statistical data capturing

Scenario 2

- 1 Data collection server

- 10 servers (web, application, database) (UNIX and NT)

- 25 networking hardware devices with 250 ports/elements to be monitored

- 25 monitoring workstations to pro-actively generate simulated application usage

- 25 client workstations representing heavy utilized locations to passively capture

- application/network statistics

- 750MB of annual statistical data capturing